nerdling

issue #11

introduction

nerdling has reached the significant milestone of **eleven** issues: **eleven**, the only palindromic prime number with an even number of digits; **eleven**, the number of the first manned mission to land on the moon; **eleven**, the number of Tim-Tams in a packet.

Eleven is strange and symmetrical and sneaky. There are secret ways to find if a number is divisible by eleven: take the number, start at either end, and alternately add and subtract its digits. If the answer is either zero or divisible by 11, then the number is divisible by 11 too. For example: 1595 gives 1-5+9-5 = 0, and is hence divisible by 11.

Eleven will allow you to do other hard sums in your head and make you look very smart to other people. For example: when multiplying a two-digit number by 11, just add the two digits together and sandwich the answer in the middle of the original number. For example, to find 81×11, we do 8+1=9, so the answer is 891. (When the sum is 10 or greater, you'll have to carry the 1.) Also: $11^2 = 121$, $111^2 = 12321$, $1111^2 = 1234321$ and so on. With these sorts of tricks you will be the life of the party. That's a special nerdling guarantee.

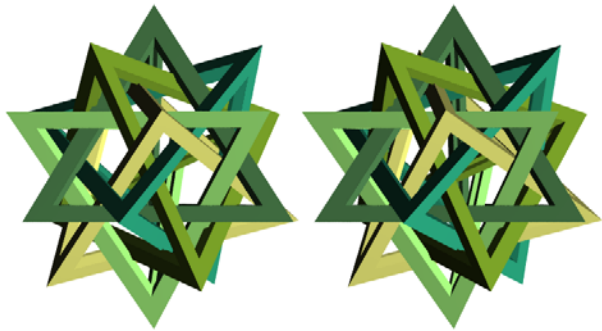
Eleven is an auspicious date. Douglas Adams was born on the 11th of March. Nobel physicist Richard Feynman was born on the 11th of May. And Thomas Edison, the inventor so nerdy they say he invented the household lightbulb in order to stay up late and work, was born on the 11th of February.

Eleven is granted a special name—it doesn't follow the pattern by being called 'oneteen'. It comes from the Germanic words *ainaz lif,* or "one left (over ten)", which (strangely) morphed into the Old English word *endleofon*. It also gives us two words for time: the relaxed atmosphere of 'elevenses' or morning tea, and the frantic rush of 'the eleventh hour', or last possible moment.

Seven Eleven. Ocean's Eleven. The Prime Minister's Eleven. September Eleven. Stella One Eleven. Legs Eleven. We like to think that issue 11 of nerdling zine embodies all of these things and more.

the übernerdling · editor, nerdling zine
October 2004
email: editor@nerdling.net

contents



Stereogram: focus behind the page so the images overlap, and see the Compound of Five Tetrahedra in 3D!
Coded and rendered by Tania using POV-ray: www.povray.org

"Physics is like sex. Sure, it may give some practical results, but that's not why we do it." - Richard Feynman

Was University MORE FUN in the Middle Ages?

It is the twelfth century. For nearly three hundred years, learning has lain dormant. Organised universities do not exist. The concept of a 'school' has just begun to re-emerge in the form of church groups in which students are forced to memorise enormous texts, are forbidden to play sport, and are punished by beating if they speak anything but Latin.

In Bologna, Salerno, Paris, Montpellier and Oxford, however, groups of students are beginning to gather independently of the church in order to seek knowledge. These groups are the precursors to our modern universities. Whether they are more fun than university nowadays largely depends on which end of the dagger you are—for university in the middle ages can be a lawless place. And woe betide if you are a first year student...

MORE FUN FOR THE STUDENTS: Fire your lecturer, learn in a pub

The first universities needed little or no organisation or administration since there were no deans, trustees or even university buildings. Students used to meet up in any public building available, including taverns or brothels. There were no formal university fees for students, and no formal method of pay for lecturers. At Bologna, for example, the students held total control of the university. They themselves hired and fired professors, and would fine them for unexplained absences or lateness, for wandering from their subject, and for dodging difficult questions. At other universities the professors were very proud, taught from thrones and dressed themselves in noble gowns; however, they too relied directly on student fees and thus spent most of their time courting student popularity.

LESS FUN FOR THE LECTURERS: Be interesting or get stoned

The concept of the end-of-semester course-feedback form didn't exist in the twelfth century. Students expressed their dissatisfaction with a lecturer's teaching by either docking his pay or by throwing stones. In Leipzig it was found necessary to make it against the rules to hit a lecturer with a stone. Later, the subclause was added that it was still wrong to throw stones at a lecturer, even if they missed. A further addition forbade even picking up a stone if you looked the slightest bit shifty.

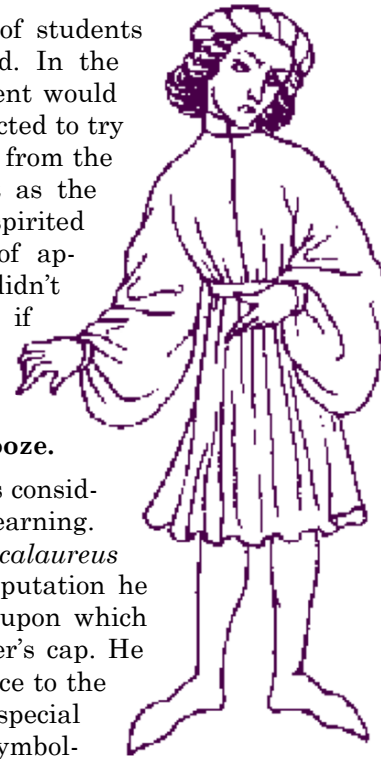
LESS FUN FOR FRESHMEN: Beware the golden shower

First-year students were regularly harassed by older students in pranks which were designed to 'purge them of their rusticity'. In Germany this behaviour actually provoked a law forbidding students from urinating on freshmen.

MORE FUN AT SEMINARS: Don't just sit there, cry for blood!

Watching a presentation at a medieval university was not the dull PowerPoint-driven yawnfest we often encounter today. Instead it was more like going to watch a boxing match. When a student was nominated by his professor to give a 'disputation', all other classes

were cancelled and a large band of students and eminent visitors would attend. In the manner of a tournament, the student would present his thesis and then be expected to try and defend it against all opposition from the audience. The professor would act as the student's second and trainer. A spirited defence was hailed with shouts of applause. Woe to the student who didn't entertain or educate the audience if there were loose stones around.



MORE FUN AT GRADUATION: Kissing, caning, bullfights and booze.

A student entering a university was considered to be a kind of apprentice of learning. After a trial period he became a *baccalaureus* or bachelor, and after giving a disputation he would give a more formal lecture upon which he would be crowned with a master's cap. He would then take an oath of obedience to the university statutes, be seated in a special chair, be presented with a ring to symbolise his marriage to learning, and then ceremonially be kissed by his new colleagues.

A student graduating at Cambridge University to be a teacher had an additional special ceremonial duty to carry out. He was presented with a birch rod and a small boy, and was expected to give a demonstration of his prowess at caning. Afterwards he would pay the boy fourpence and send him on his way.

At the completion of the graduation ceremony, the student was expected to throw a huge banquet for his examiners. In Italy he would give a ball, and in Spain he would organise a bullfight. Professors would get upset if the student was stingy and didn't buy enough alcohol to satisfy them all.

LESS FUN WHEN TENSIONS RUN HIGH: It's hard to study when someone's chasing you with a cutlass

Most of the students at universities were poor and ambitious. There were no sports, and many games, including marbles and 'leaping and singing', were forbidden. With no other outlet for pent-up energies, violence would sometimes flare up. At Bologna one student assaulted another with a cutlass and was fined for

wasting the time and money of the other students in the class. In the Great Slaughter at Oxford in 1355, university students fought townsfolk and many on both sides were killed. Violence would also erupt between students of different nationalities on campus.

FUN AT FRAT PARTIES: Not much different to today, really

Some of the modern university fraternity songs don't seem to have changed since the middle ages. In medieval universities there were always bands of students who were content to spend their free time in the pub while the others slaved over their books, and they would sing songs like these two:

Time passes on
and nothing I've done;
Time is repeated,
and nothing I do.

Meum est propositum
In taberna mori
(It is my firm intention
In a public house to die.)

These students would play dice, drink wine and beer, sing songs, and more than likely, drop out of school. They would then make a living as anything from tutors to petty thieves—a situation which has obvious parallels with the modern day.

MORE FUN IN SCIENCE CLASS: No hard maths, no pesky ethics

There was no need to faff around with closed integrals and second partial derivatives in a medieval science degree. People were only just at the stage of getting used to using Arabic instead of Roman numerals, and the notion of 'zero' was a fresh import from Northern Africa. You couldn't escape trigonometry, though, which was already being taught.

Unhampered by the annoying concepts of ethics, medical students could carry out experiments limited only by their imaginations. Emperor Frederick II was one such medical scientist. One of his experiments involved feeding two lucky prisoners with huge meals, then letting one sleep in a comfortable bed while the other was made to participate in a gruelling all-night hunt. Afterwards, he cut both of them open to see which had better digested the meal. (It was the one who slept.)

LESS FUN IN OTHER SCIENCE CLASSES: Guesswork, witchcraft and 700 years to wait for the metric system.

Chemistry 101 did not yet exist; in its place was Alchemy. Students strove to discover the Philosopher's Stone, the substance that could turn lesser materials into gold. Belief in astrology was widespread and often was barely distinguished from the science of astronomy. In the Middle East this close association between mathematics and astrology (seen as black magic) had lead, two hundred years before, to certain towns making it legal to kill mathematicians. Many great medieval scholars also accepted without question the existence of witches.

Precise experiments in physics were made almost impossible in the middle ages by the fact that accurate clocks didn't exist. Until the fourteenth century people only had a vague idea of what time it was, as the hour was defined as one-twelfth of the daylight period and hence could vary between about 40 and 80 minutes long as the seasons changed.

Complications also existed in that no precise units of weight were defined. An amount of some chemical reagent would be measured as weighing, for example, one-third as much as a plucked chicken, or twice as much as a mouse.

LESS FUN IN CAMPUS ACCOMMODATION: And you thought *you* had it tough.

There is no question that life in the thirteenth and fourteenth centuries was generally lousy. Not only was Europe in a period of cold weather sometimes referred to as the little ice age, but student accommodation and university rooms were certain to be unheated and virtually unlit. Classes started with the dawn at 5 or 6 a.m., broke for lunch at 10 a.m., and most students were in bed by 8 or 9 in the evening. Most of the time students sat on hard floors.

On the street, wild pigs ran free, blood streamed from butcher's shops, and only the large cities had sewage systems. It wasn't rare to get splashed from above by the contents of someone's bed-pan being thrown onto the streets below. On top of all this, around 1350 Europe was struck by the Black Plague.

IN SUMMARY

I finish this article with the words of a medieval scribe, one of a class of professional copyists who appeared around the new universities. To copy a textbook was no mean feat, and they would often close with a personal note, such as:

Explicit hoc totum;
Pro Christo da mihi potum.

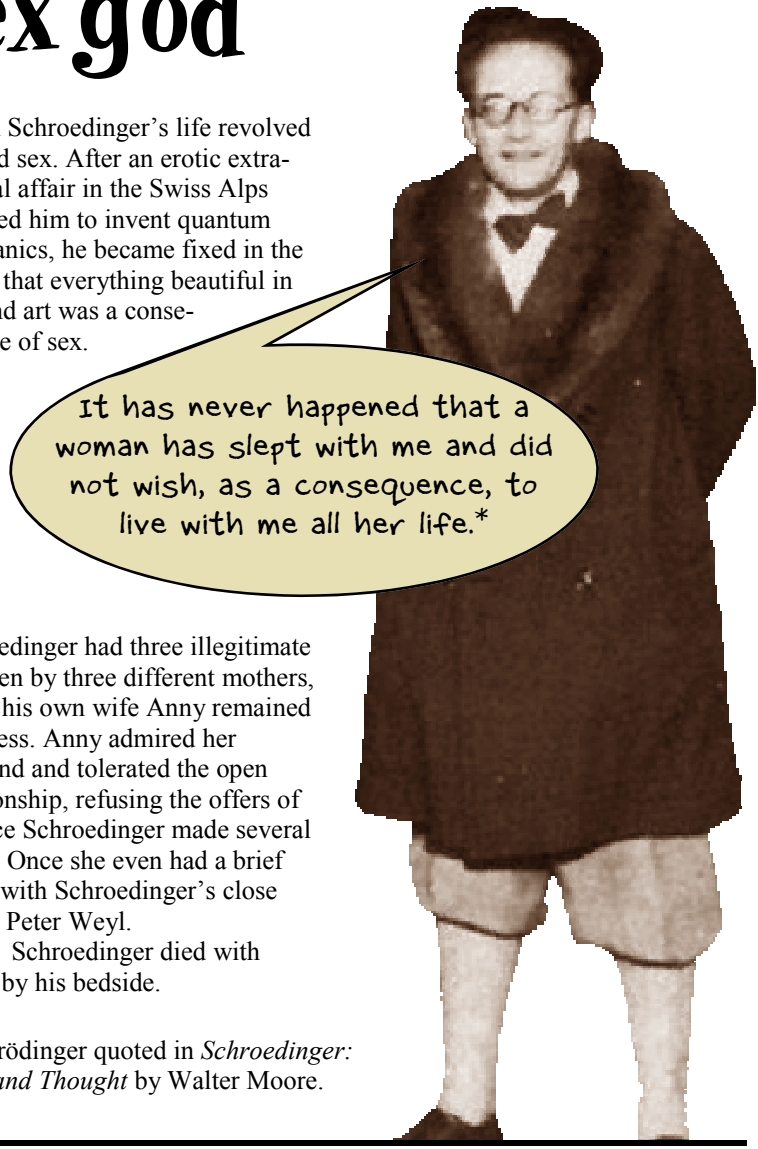
The job is done, I think;
For Christ's sake give me a drink.

Most information in this article was obtained from the excellent books The Pelican Book of the Middle Ages *by Morris Bishop, and* Euclid's Window *by Leonard Mlodinow.*

erwin schroedinger:

father of quantum mechanics, nobel prize winning physicist, sex god

Erwin Schroedinger's life revolved around sex. After an erotic extra-marital affair in the Swiss Alps inspired him to invent quantum mechanics, he became fixed in the belief that everything beautiful in life and art was a consequence of sex.



Schroedinger had three illegitimate children by three different mothers, while his own wife Anny remained childless. Anny admired her husband and tolerated the open relationship, refusing the offers of divorce Schroedinger made several times. Once she even had a brief affair with Schroedinger's close friend Peter Weyl.

Schroedinger died with Anny by his bedside.

*Schrödinger quoted in *Schroedinger: Life and Thought* by Walter Moore.

You will be pretty. Resistance is futile.

The Borg have invaded the Earth, and the first to be assimilated is the Third Generation “Petal Blossom” My Little Pony.

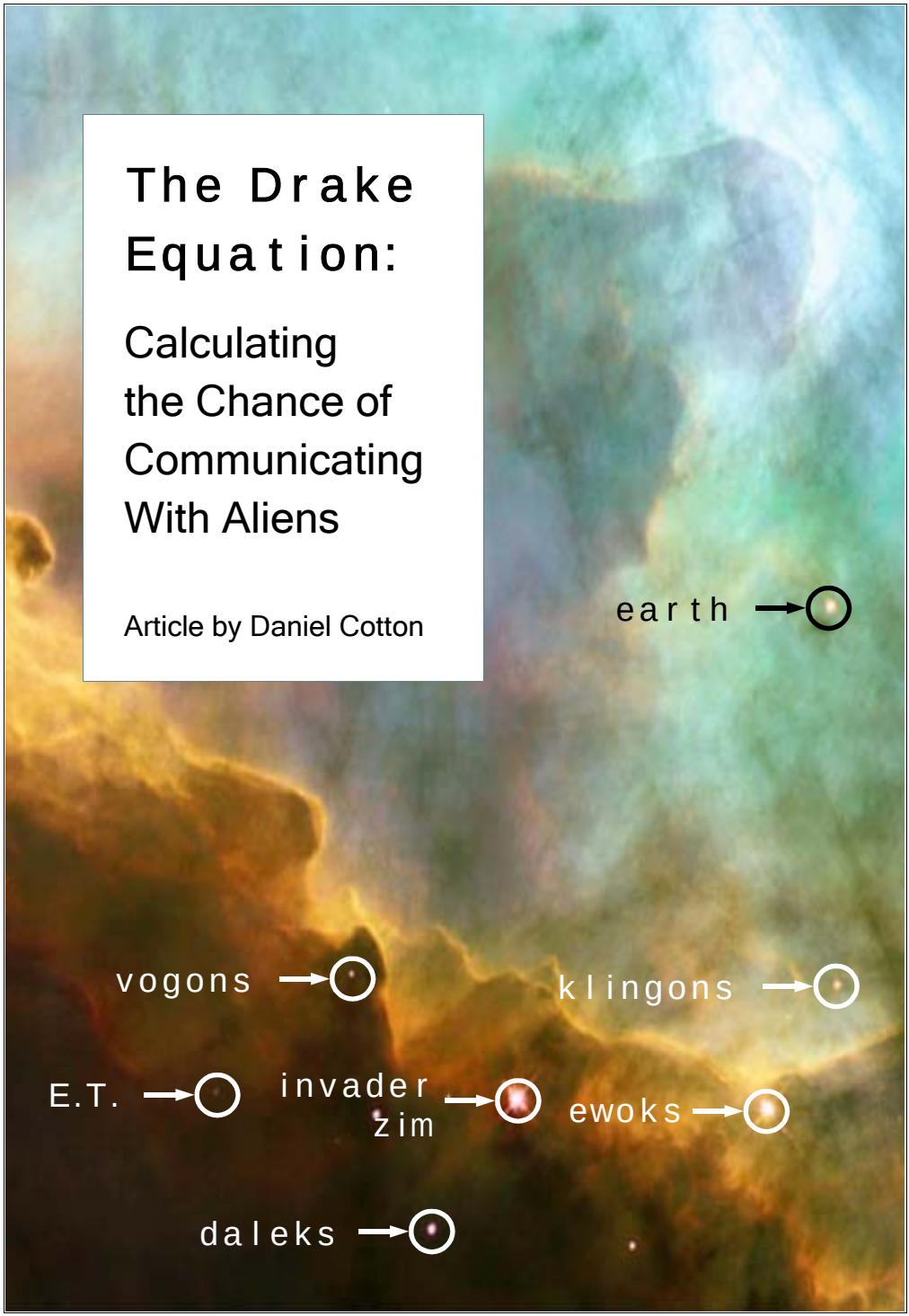
#103 is custom made by Aikarin, and is named after the number stamped under her hoof by Hasbro.

For more details see
http://www.aikarin.com/mlp/customs/103.html

The Drake Equation:

Calculating the Chance of Communicating With Aliens

Article by Daniel Cotton



For hundreds of years, humans have speculated about the existence of intelligent life on other planets. Around the year 1600 Giordano Bruno spread the idea that the stars were distant suns, each accompanied by planets housing societies like our own. The fact he was burned at the stake by the Roman Catholic Inquisition did not silence the idea.

In 1877, when the Earth and Mars were in unusual proximity, the astronomer Giovanni Schiaparelli made sketches of the Martian surface which included features he called *canali*. Initially this was mistranslated as 'canals', rather than the more accurate 'channels', leading to the mistaken belief that the structures were artificial and that there was a technological or agricultural society on Mars. The fact that the canals would have to be more than 50 miles wide to be seen through a telescope did nothing to deter some. Many people still seriously believed that canals had been built by Martian farmers until the 1960s when close-up images taken by spacecraft showed Mars to be desolate and in fact devoid of canals. The fact that otherwise very rational scientists would cling to this idea of life on Mars for so long despite having only the slightest evidence highlights our desire as human beings to believe we are not alone in the universe. Perhaps it is simply human nature to long for companionship even if it is of the alien kind.

With such a deep-seated desire to search for other life, it was only a matter of time before science formalised the problem. The possibility of finding and communicating with aliens was discussed in a 1959 *Nature* article by Guiseppe Cocconi and Philip Morrison entitled 'Searching for Interstellar Communications'. This paper spawned the famous Search for Extra-Terrestrial Intelligence (SETI) movement. The probability of alien civilisations actually existing is, however, a different problem. Cocconi and Morrison concluded that "The probability of success is difficult to estimate; but if we never search, the chance of success is zero." Two years later an attempt was made by Frank Drake to quantify this probability. It was done in the form of an equation, which has since become known as the Drake Equation.

"The probability of success is difficult to estimate; but if we never search, the chance of success is zero."

The Drake Equation is

$$\mathbf{N = R \times f_p \times n_e \times f_l \times f_i \times f_c \times L}$$

where **N** is the number of observable civilisations in the Milky Way galaxy, **R** is the rate at which stars have been born in the Milky Way per year, $\mathbf{f_p}$ is the fraction of these stars that have planets, $\mathbf{n_e}$ is the average number of Earth-like planets in a solar system, $\mathbf{f_l}$ is the fraction of those planets on which life forms, $\mathbf{f_i}$ is the fraction of life-bearing planets where intelligence evolves, $\mathbf{f_c}$ is the fraction of intelligent species that become capable of interstellar communication, and **L** is the average lifetime of a communicating civilisation in years.

The Drake Equation essentially took one unknown quantity, the number of observable civilisations, and broke it down into several equally unknown quantities. Many would argue that this is not particularly helpful. However, since the equation was presented many astronomers and biologists have worked hard to try and quantify the terms. We now have the field of astrobiology as a result of the Drake Equation despite the fact that nobody has ever found undeniable proof of biology away from Earth.

What answer does the Drake Equation yield? This varies widely according to the values chosen for the terms. Turn the page for a discussion of each of the terms, and find out what the Drake Equation says about our chances of communicating with aliens.

R: The birth rate of stars

R is the number of stars born per year in the Milky Way galaxy. It is known, currently, to be **approximately 1**. Photographs of the sky are taken routinely by both professional and amateur astronomers and the appearance of a new point of light signifying the birth of a star is an exciting event which happens, on average, once a year. Astronomers have determined that stars formed at a higher rate billions of years ago, when the majority of current stars were born, and so a value of R of approximately three seems more realistic when we are thinking about systems that might currently be furnishing intelligent, communicating life.

F_p: The fraction of stars with planets

Though we still have little idea what value f_p has, recent research has given us a much better idea than we had ten years ago. As of the 10th of February 2004, 120 planets had been detected in 105 planetary systems. The main method for detecting these planets is an indirect one. It involves observing the wobble in a star's motion caused by the gravitation of a large orbiting body. This wobble can be detected as a Doppler shift (a change in the colour of the light coming from the star). At the moment this method can only detect planets roughly the size of Jupiter or larger. Given the difficulty in detecting these planets, and the fact that astronomers have found planets for approximately four percent of the non-binary stars they've looked at, we can guess that the number of stars with planetary systems is **between ten and seventy percent.**

$$R \times f_p \times n_e \times f_l$$

n_e: The number of Earth-like planets in a system

As you might now have guessed, it is not really possible to make a sensible guess at how many Earth-sized planets there are, given we can only find those the size of Jupiter. It has been calculated that a 100 km space-based array of telescopes would be needed to detect Earth-sized planets around only the fifty nearest stars, and who's going to put up the money for that? We do know that there are at least two Earth-like planets in our solar system, Earth and Mars, but opinions differ over whether Venus is Earth-like. If we can't even agree on how many there are in our own solar system then any generalisation to other systems will be uncertain at best.

As if this term weren't already difficult enough to figure out, recent scientific work suggests that moons of 'gas giant' planets such as Jupiter may also be able to support life. Nobody had considered this a possibility when the Drake Equation was first posed. All these factors suggest that **n_e may be as high as five.**

f_l: The fraction of Earth-like planets that will develop life

Amino acids and other organic molecules that are the building blocks of life are known, by infrared astronomy and meteorite analysis, to be common in nebulae and comets. Biologists believe that where these molecules exist, life will take hold given enough time and the right climatic conditions. It is therefore believed by many scientists that **f_l** could be quite large. A paper by Charles Lineweaver concludes that "on Earth-like planets older than 1 Gyr , the probability of biogenesis is larger than thirty-three percent at the ninety-five percent confidence level". This means that in a thousand million year time frame, **the chances are that one in three Earth-like planets will get life**. To put that in perspective, the Earth is about four and a half thousand million years old.

f_i: The fraction of life-bearing planets with intelligence

If you think the numbers have been pretty hazy so far, it only gets worse. The fact that we are the only intelligent life form we know of means **we pretty much have no idea how common intelligent life is**, or how quickly an average civilisation evolves. In addition, life on any promising planet could be wiped out or set back a few million years by a comet impact or a nearby supernovae explosion. These types of events are likely to be more common closer to the galactic centre where stars are less sparse, but we don't even have a good idea of how frequent they are here on our own spiral arm of the Milky Way. If we knew more about how often these events occurred and how they effected the development of life, it would be easier to know where to search for signals and give us a better idea of the value of $\mathbf{f_i}$.

f_c: The fraction of intelligent life that will communicate with us

The fraction of intelligent civilisations that would choose to communicate in a way in which we could detect is even harder to predict and **there are no reliable estimates**. It could be that nobody wants to talk to us. Then again why should we believe that the desire for companionship is a purely human trait?

Of course, they would also have to communicate using a method we could recognise and detect. If they use a band of the electromagnetic spectrum then Cocconi and Morrison have us in good shape, but should aliens try to talk to us using a medium such as, for example, psychic brain waves we might have trouble.

$$\times\ f_i \times\ f_c \times\ L = N$$

L: The lifetime of communicating civilisations

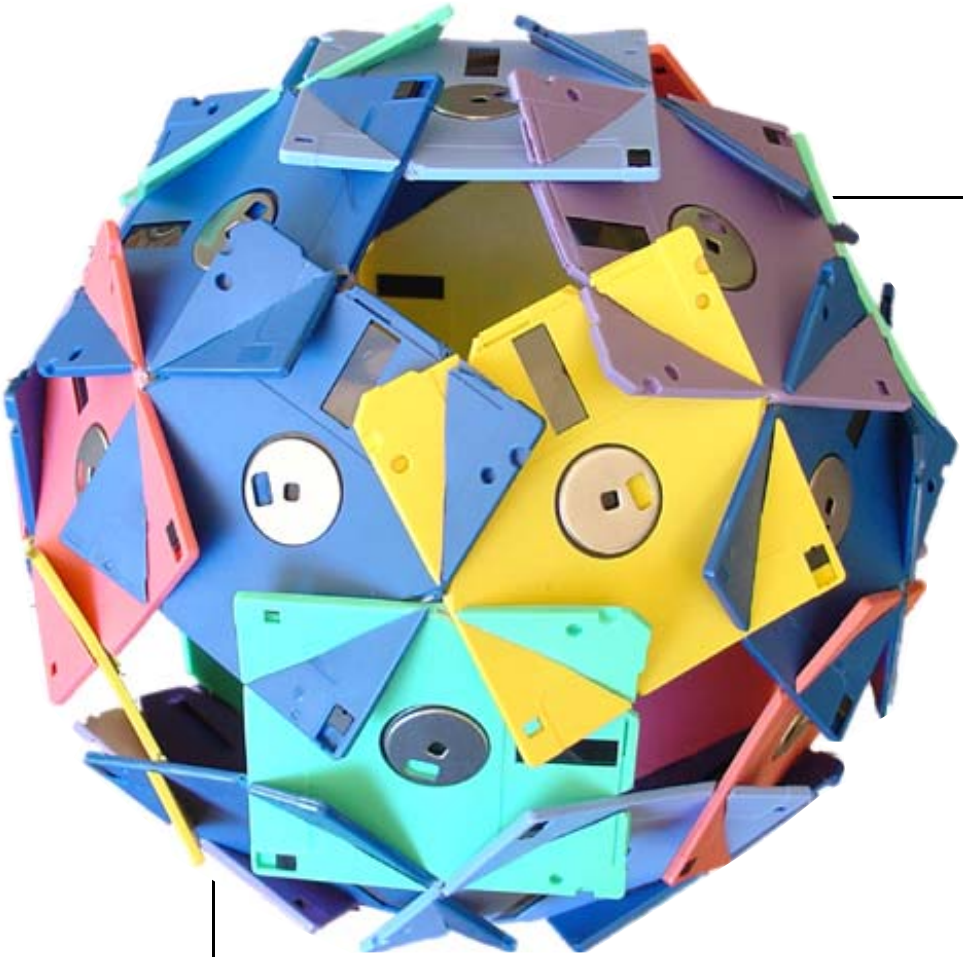
The lifetime of a communicating civilisation again appears impossible to predict, although some have tried. **Estimates range anywhere upwards of 50 years**, on the assumption that any species that develops radio will shortly afterwards master the power of the atom and destroy itself in nuclear war. It's worth keeping in mind, though, that a species would survive much longer if it reached the stage of colonising other planets, since it wouldn't be vulnerable to disasters that could wipe out its home world.

An argument suggesting **L** is quite small is the Fermi Paradox, named for Enrico Fermi who in 1950 asked (in a lunchroom discussion about aliens, ironically at a nuclear weapons lab), "Where is everybody?" By this he meant that since the Earth hasn't already been overrun by aliens, it seems unlikely that aliens have been colonising the galaxy for billions of years. However in 1981 William I. Newman and Carl Sagan observed "Rome was not built in a day, although one can cross it on foot in a few hours," implying that although it may be possible to travel across vast reaches of space given time, it would take much longer to set up the necessary infrastructure to colonise a world.

So, what's the answer?

Has the Drake Equation helped us? Despite the large amount of work done on quantifying the terms, **estimates for N have ranged from practically nothing to a million or more.** For now, therefore, it seems that the best way to determine whether or not there are intelligent civilisations out there who want to communicate with us is to actually look for them.

However, the Drake Equation was never just about producing a number for our chance of success in searching. It was also designed to foster thought on the subject and to provide a reference point for research in this area of astronomy. To this end it is still succeeding today.



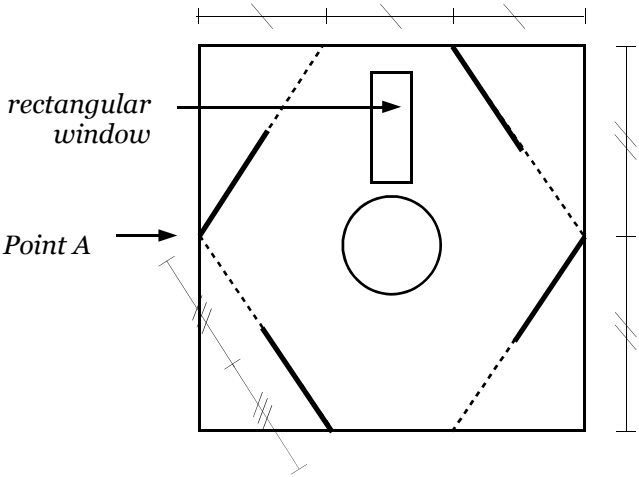
It's cheap and easy to make, and it combines the nerdiness of polyhedra with the geekiness of retro computer gear. Make your own **Disko Ball** and be the envy of every other dateless computer hacker in the comp.sci. building!

Disko Fever

You will need: thirty old computer disks
a ruler and pencil
access to a bandsaw with a tilting table

Method:

- Carefully remove the disk labels (eucalyptus oil can help) and take off the sliding plate protecting the magnetic disk.
- Measure and mark lines on the disks according to the diagram below:



Make sure the metal circle in the centre of the disk is always facing upwards.

- Tilt the bandsaw table at an angle of about 45 degrees and cut according to the heavy lines marked on the diagram.
- Once all the disks are cut, slide them into each other to form the Disko Ball. Use the picture as a guide and observe the following rules:
  - · the rectangular window always points towards a hole surrounded by five disks.
  - · three disks always meet at Point A.
- Take a moment to sit back and admire the cute dodecahedral/icosahedral architecture with its 35 axes of five-, three– and two-fold rotational symmetry.

Model diagrammed, constructed and photographed by Tania. Work based on a photograph in the polyhedra gallery of George Hart at www.georgehart.com .

BabelFish Poem

With the Internet revolution
we now have the potential
to promote mutual understanding and respect
between every corner of the globe.

Mit der Internet-Revolution
haben wir jetzt das Potential
gegenseitiges Verständnis und Respekt
zwischen jeder Ecke der Kugel zu fördern.

With the InterNet revolution
we have now the potential
to promote mutual understanding and respect
between each corner of the ball.

Avec la révolution d'Internet
nous avons maintenant le potentiel
de favoriser la compréhension et le respect mutuels
entre chaque coin de la boule.

With the revolution d'Internet
we have now the potential
to support mutual comprehension and the respect
between each corner of the ball.

回転 インターネットと
私達は球の各コーナー間の
相互理解そして点を支える
潜在性を今有する。

Revolution d' Internet
we now possess the latent characteristic
which supports mutual understanding
and the point between each corner of sphere.

Виток d' Интернет
мы теперь обладаем скрытой характеристикой
поддерживает взаимное понимание
и пункт между каждым углом сферы.

Turn d' The Internet
we now possess the concealed characteristic
support mutual understanding
and point between each angle of sphere.

轉動 d'網際網路
我們擁有被隱瞞的典型
支持相互理解
和現在指向在球形之間各個角度。

Rotates d'Internet
we have the model support
which conceals were mutually understood
and the present aims between the sphere each angle.

by Tania Ritchie
from a speech by Carly Fioria, CEO Hewlett Packard
using the BabelFish translation service at
http://world.altavista.com/
based on a concept by Ryan Webb

patently GENIUS

There's a certain romantic appeal to being a bona-fide genius: the kind of person who has never gone to university but nonetheless rediscovers the laws of physics while working a part-time job as, say, a check-out chick in a supermarket. Ever since Einstein published three paradigm-shattering papers while working as a patent clerk (or, in Einstein's own words, a "venerable federal ink-shitter"[1]), it's almost seen as *mandatory* that, if you want to qualify as a classical genius, you avoid any formal schooling whatsoever. *Everyone* knows that the best ideas come from people who haven't already been brainwashed by textbooks, right?

Well, in the tradition of Einstein, one of the best places to find modern misunderstood genii is the patent office. While the ranks of university academia might be shut tight to the backyard inventor (no doubt due to academics' closed minds), the patent office doors are always open to welcome a writer who can, at the very least, cough up the US$770 fee for a (United States) patent. Your knowledge of science certainly doesn't have to be correct down to the last detail. The 104 patents (minimum) awarded for perpetual motion machines should attest to that.[2]

Here, we show you how to enter the ranks of the classic misunderstood genius by teaching you the finer points of patent writing. We've presented it in the form of a tutorial, using a patent by A. P. Pedrick (shown opposite) as our guide. Perhaps one of the finest original thinkers of all time, Pedrick has taken out many patents including an invention to irrigate the Australian desert by piping snowballs from Antarctica using the Coriolis Force of the earth (UK Patent 1047735). Here we examine one of his other groundbreaking works. You will find our checklist, found overleaf, to be invaluable when writing your next patent, and you might also find inspiration in the work of other patent genii presented on pages 24-25 Good luck.

[1] Leonard Mlodinow, *Euclid's Window*, p190

[2] For a complete listing, see *The Museum of Unworkable Devices* at http://www.lhup.edu/~dsimanek/museum/patents.htm

PATENT SPECIFICATION (11) 1 426 698

1 426 698

(21) Application No. 17808/74 (22) Filed 23 April 1974

(44) Complete Specification published 3 March 1976

(51) INT CL² G01J 5/46

(52) Index at acceptance

GIX 14

(19)

(54) PHOTON PUSH-PULL RADIATION DETECTOR FOR USE IN CHROMATICALLY SELECTIVE CAT FLAP CONTROL AND 1,000 MEGATON, EARTH-ORBITAL, PEACE-KEEPING BOMB

(71) I, ARTHUR PAUL PEDRICK, British subject, 77 Hillfield Road, Selsey, Sussex, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention is concerned with a device, which will respond with considerable sensitivity to specific intensities of radiant energy to which it may be exposed, and thus may be used for a number of applications in which it is required to carry out an operation in response to specific emissions of the strength of the so called "electromagnetic wave", to which it is directed but, in particular it can be used

(1) To detect the difference in the colour of the fur on the back of a cat wishing to gain entrance to a house by means of a "chromatically selective cat flap", to thus admit to a house a cat which has GINGER fur, but exclude a cat with BLACK fur.
and

(2) To provide, in an Earth Orbital 1,000 Megaton Complete Nuclear Disintegration or "CND" Bomb Automatic Reprisal Satellite Bomb, forming part of an Automatic Response Nuclear Deterrent System, or ARNDS System for short as described in UK Patent No. 1,361,962, means for detecting with certainty, whether a nuclear attack has been made on the surface of the Earth below it, and to determine from which part of the Earth's surface, the attack has originated, to activate a reentry through the air layer to detonate the 1000 Megaton Bomb on that country or state, whose government has originated the Nuclear attack, the purpose of the system being to obtain the release of deuterium and tritium from stocks of thermonuclear weapons for peaceful use of the energy therein represented by Einstein's equation $E = mc^2$.

1426698 COMPLETE SPECIFICA
4 SHEETS *This drawing is a reproduct the Original on a reduced*
Sheet 3

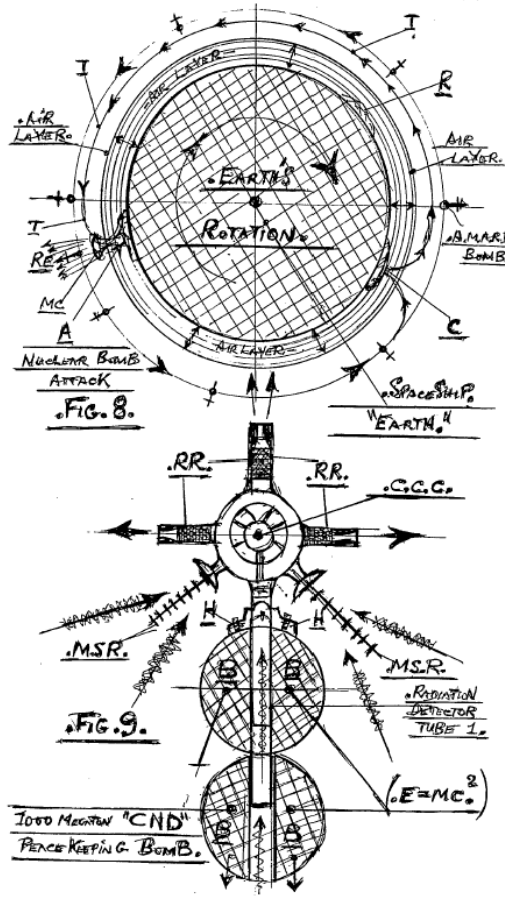


FIG. 8.

FIG. 9.

how to write a patent like a GENIUS

checklist

'Bonus marks' refer to Pedrick's patent, extracts of which are shown on the previous page and below, and are intended to highlight the exceptional standards his work sets for all of us.

- ☑ **Claim inspiration came from your cat.**
  bonus marks for Pedrick for actually transcribing and including the conversations he had with 'Ginger'.
- ☑ **Mention Albert Einstein and $E=mc^2$ at least once.**
  bonus marks for using them not just once, but 5 times each.
  bonus marks for also mentioning, in the same patent, Jesus Christ, Adolf Hitler, President Roosevelt and the United Nations.
- ☑ **Think outside the square.**
  bonus marks for working out how to save the whole of civilisation using cat-flap technology.
- ☑ **Use impeccable spelling and grammar.**
- ☑ **Prove modern physics to be wrong.**
  bonus marks for redefining not one but two fields: (a) the quantum nature of light, and (b) intra-nuclear forces.

When I showed Ginger my drawings for the "chromatically selective cat flap control unit" he was very impressed.

"Purr-purr" said Ginger, thats quite clever . . . I shall be able to get in to eat my food, without worrying about "Blackie" from next door. But said Ginger, there is a much better use for your Sensitive radiation detector device . . . think about this.

Well went on Ginger, I have been studying nuclear physics for quite a while, and it seems to me there is something "not quite right with it all".

All your physicists have been very clever at breaking up the nucleus of the Atom, but they don't really UNDERSTAND it at all, because none of them can really EXPLAIN, even with all their beautiful equations, why the nucleus stays together anyway, since all your physics books tell me.

"Like electro-statically charged bodies repulse each other", and yet all those protons seems to cling together like in a tiny bunch of grapes, with the neutrons in the nucleus of a size around 10^{-13} cms.

"It's really rather ridiculous, went on Ginger, but not one of them thinks for a moment . . . "Well, perhaps the nucleus is quite normal . . . and it's all the World's Physics Books which are wrong when they say

"Like electrostatic charges repulse each other."

Once you realise this, went on Ginger, it's easy to understand what is holding the nucleus together, and once you know that it is easy to understand what you have to do to disintegrate it altogether, instead of just fissioning it.

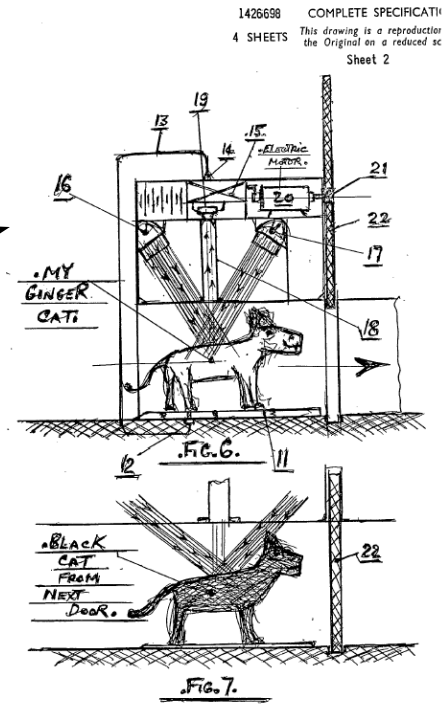
☑ **Invent entire new theories of physics.**

bonus marks for a theory that can certainly not be disproven: that light both pushes *and* pulls on a surface it hits, at the *same time.*

☑ **Draw really cool diagrams.**

bonus marks for doing them in biro.

bonus marks for the interpretation of 'black coloured light' reflecting from the back of a cat.



☑ **Don't worry yourself with the details; when you're made famous by your invention, your minions will take care of all that.**

bonus marks for missing details like: a thermonuclear bomb will set off the detector, but the sun (a 2 billion billion billion-tonne fusion bomb) will not.

☑ **Quote (or at least badger) the physics professor at your local uni.**

2(A), if you are one such photon, how do you decide whether to go on through, or bounce back, or reflect or, in other words, "Does God play Dice with the Universe?"

I am informed by a Professor of Physics that there is "no one on Earth", who can explain this simple problem for me. But in UK Patent No. 1,311,140, I have suggested that if we imagine, what we cannot see, the photon not as a "wave-packet" but as a "particle-packet", formed by a series of (spinning) pairs of tiny point-like particles i.e. the hypothetical graviton particle, moving along in a sinusoidal double-helix, for which the helix diameter is a measure of the so called "wave-length", we can give a causal explanation, to the simultaneous passage through, and reflection of, a light ray, as in Figure 2(A), since it is then going to make a difference, according to the exact line of movement of such a "Cylindrical light photon", how it will interact with the spacing of atoms in the surface of a glass plate, as in Figures 2(A) and (B), which can explain the operation of dichroic, or colour sensitive glass, as used in Colour T/V cameras.

☑ **Use many acronyms. They sound more technical than words.**

bonus marks for getting the acronyms wrong (e.g. CCC = Central Control Unit Computer)

bonus marks for using the acronyms wrongly (e.g. "the computer CCC will…")

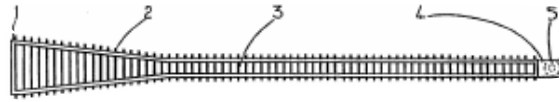
☑ **Don't be afraid to use the occasional joke.**

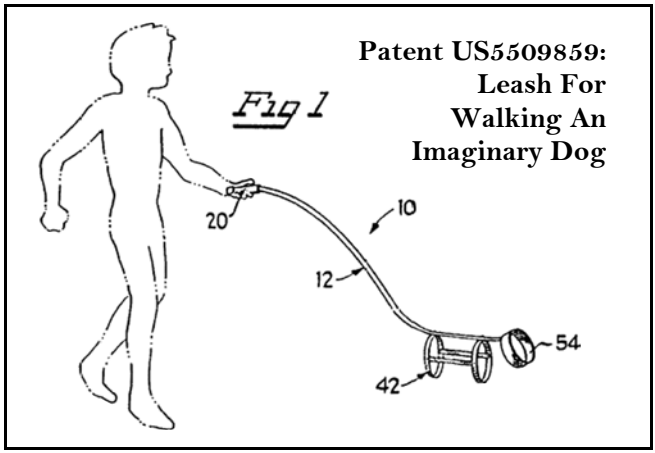
By such an arrangement there might be a great reduction in useless expenditure on Nuclear rockets and Anti-Missile-Missile systems, thus reducing inflation and stabilising the price of cat foods.

yet more examples of patent GENIUS

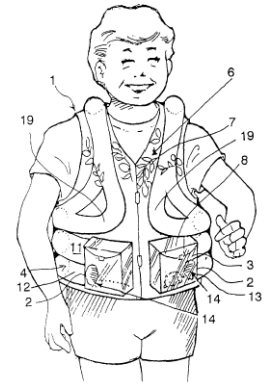
Patent GB2272154: Ladder To Allow Spiders To Climb Out Of A Bathtub

"A spider ladder comprises a thin flexible Latex rubber strip (1) and a suction pad (5), the strip is designed to follow the inner contours of a bath. Suction pad (5) enables the strip to be positioned on or near the top edge of a bath. In use the suction pad is positioned on or near the top edge of a bath and the strip is allowed to fall under gravity down the inner contours of a bath. Trapped spiders searching for an escape route will scale the spider ladder by means of (2) and (3) the inner and outer steps respectively."





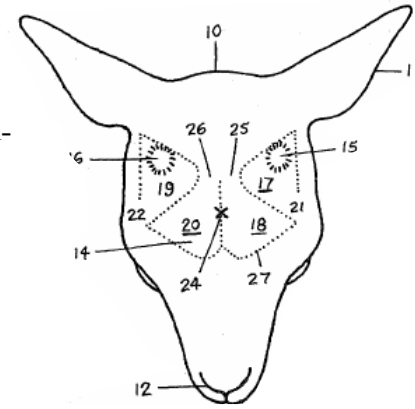
Patent US5509859: Leash For Walking An Imaginary Dog

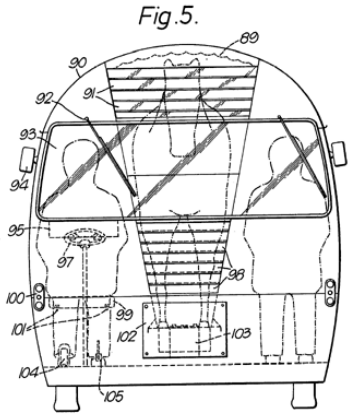


Patent 5901666: Wearable Pet Cage

US4429685: Method For Growing A Unicorn

This invention involves the surgical alteration of the horn buds of a young goat, such that the two horns merge and grow into a central horn like that of the unicorn. The author seems to live in a kind of fantasy world himself: "The unicorn, both in mythology *and history*, possesses a unique reputation … It is the purpose of the present invention to provide an improved method of forming a unicorned animal having what is thought to be a higher mental capacity and greater physical capabilities." The patent tells us that these properties of unicorns will make them useful as guard animals.



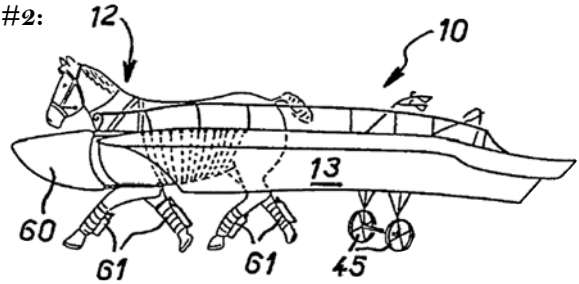


GB2060081: Horse Powered Car #1: the horse is in the car

"A road vehicle is driven by animal powered drive means comprising an endless conveyor belt (34) acting as a tread-mill and driving the vehicle drive wheels through a chain (44), a clutch (49), and a variable-ratio gearbox (46). The belt is centered on the longitudinal centre line of the vehicle below an enclosure for the animal, driver and passenger spaces being on either side of the enclosure. The animal is supported by harness including a collar (76), trace (77), a back strap (80), girth (79) and a breeching block (84). Containers are provided to collect droppings."

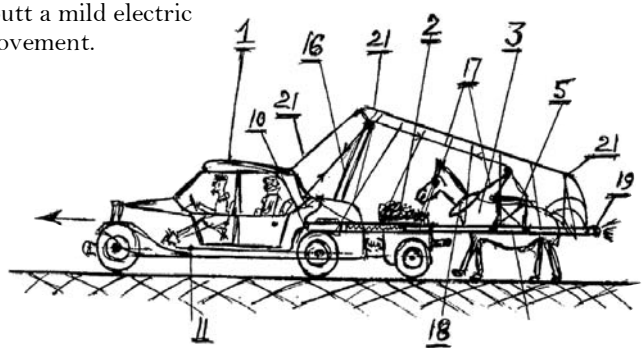
FR2694256: Horse Powered Car #2: it's also a horse powered boat

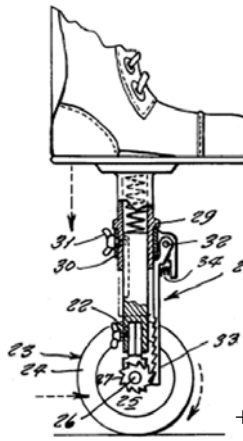
This is in fact an amphibious land/water vehicle. It is cited as being useful for "hydrotherapy for injured horses, water horse sport" and has the advantage of being "low cost and adaptable".



GB1405575: Horse Powered Car #3: the cart goes before the horse.

To control the speed, the car's accelerator pedal varies the thrust which the horse must exert to reach its feedbox. The brake pedal is linked to the horse's halter. The ignition switch can give the horse's butt a mild electric shock to stimulate it into movement.





Patent US3977094: Pogo Boots

Ugly boots + pogo stick + unicycle - brakes = fun?

Find links to many websites listing bizarre patents at http://www.patent.freeserve.co.uk/othersites.html

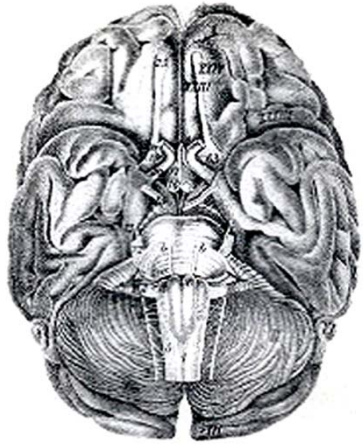

Nerdling Zine
Bringing nerds together since 1962
I can't believe I've found a woman with such great taste in clothes. Those sexy glasses are messing with my ability to focus on our physics study.
I never would have snared my man if it weren't for nerdling's great fashion tips. Thank you, nerdling zine!

Slush.

nerdling’s Antarctic weblog

Davis Base, Nov 2004—Feb 2005

www.nerdling.net/slushpile



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